

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P331492

Luminaire Tested: **S122DIW-S290D1440U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331492
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S290D1440U835-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6198.2 lumens
Efficiency: N/A
Efficacy: 116.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

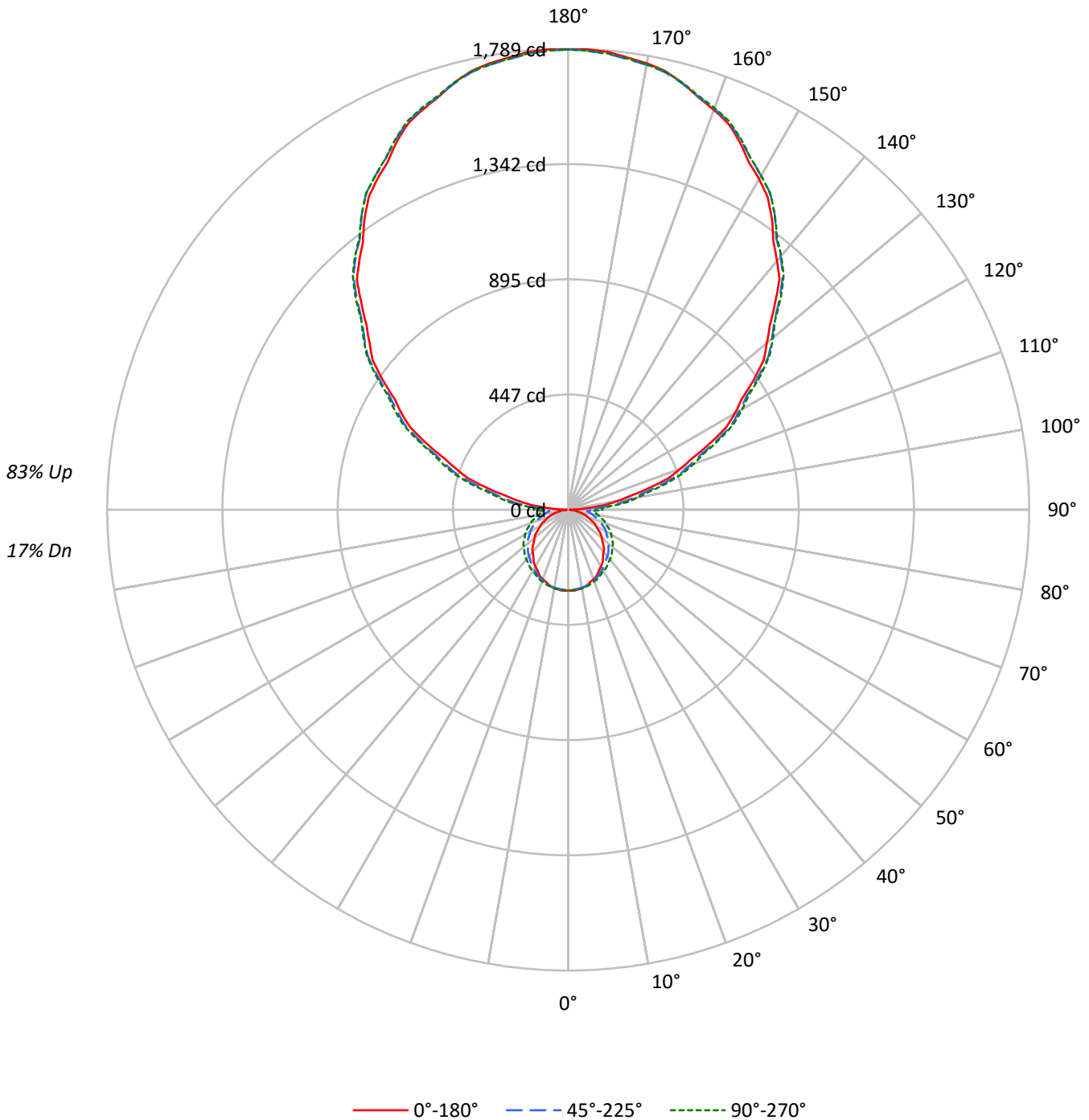
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									20									
RC	80									70									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																			
RCR																																														
0	99	99	99	99	87	87	87	87	65	65	65	45	45	45	26	26	26	17																												
1	90	86	82	78	79	75	72	69	56	54	52	38	37	36	22	21	21	13																												
2	82	74	68	63	71	65	60	56	49	45	43	33	31	30	19	18	17	11																												
3	74	65	58	52	65	57	51	47	43	39	35	29	27	25	17	15	14	9																												
4	68	57	50	44	59	51	44	39	38	33	30	26	23	21	15	13	12	8																												
5	62	51	43	37	54	45	38	33	34	29	25	23	20	18	13	12	10	6																												
6	57	45	37	32	50	40	33	29	30	25	22	21	18	15	12	10	9	6																												
7	52	41	33	28	46	36	29	25	27	22	19	19	16	13	11	9	8	5																												
8	48	37	29	24	42	32	26	22	24	20	17	17	14	12	10	8	7	4																												
9	45	33	26	21	39	29	23	19	22	18	15	15	13	10	9	7	6	4																												
10	42	30	23	19	37	27	21	17	20	16	13	14	11	9	8	7	6	4																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5062	5062	5062
5°	5086	4872	4853
10°	5054	4728	4675
15°	4983	4575	4487
20°	4896	4412	4306
25°	4810	4254	4140
30°	4687	4093	3976
35°	4563	3936	3860
40°	4433	3803	3743
45°	4308	3685	3644
50°	4176	3577	3546
55°	4035	3461	3447
60°	3865	3340	3342
65°	3686	3200	3215
70°	3487	3048	3081
75°	3236	2900	2956
80°	2836	2748	2829
85°	2454	2617	2731



TEST NUMBER: P331492

CATALOG NUMBER: S122DIW-S290D1440U835-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	0.5
10°-20°	85.2	1.4
20°-30°	129.1	2.1
30°-40°	157.2	2.5
40°-50°	169.1	2.7
50°-60°	164.2	2.6
60°-70°	143.4	2.3
70°-80°	110.4	1.8
80°-90°	81.2	1.3
90°-100°	164.2	2.6
100°-110°	388.8	6.3
110°-120°	625.6	10.1
120°-130°	804.0	13.0
130°-140°	892.8	14.4
140°-150°	870.7	14.0
150°-160°	729.5	11.8
160°-170°	483.8	7.8
170°-180°	169.1	2.7
0°-30°	243.9	3.9
0°-40°	401.1	6.5
0°-60°	734.5	11.9
0°-90°	1069.5	17.3
90°-120°	1178.7	19.0
90°-150°	3746.2	60.4
90°-180°	5129.0	82.7
0°-180°	6198.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	314	314	314	314	314	
5°	314	313	310	313	312	30
15°	300	301	301	305	304	84
25°	273	276	280	285	287	125
35°	235	243	251	261	264	147
45°	193	205	221	234	239	149
55°	148	164	188	203	210	132
65°	101	123	150	168	174	100
75°	56	82	110	129	136	59
85°	16	45	74	92	99	18
90°	6	52	113	127	135	7
95°	82	118	149	165	168	93
105°	326	345	371	389	395	345
115°	605	619	636	648	649	598
125°	878	892	902	909	912	785
135°	1136	1152	1160	1167	1167	877
145°	1378	1388	1398	1401	1398	861
155°	1575	1580	1584	1591	1588	725
165°	1714	1713	1713	1722	1716	483
175°	1783	1779	1776	1785	1777	169
180°	1786	1786	1786	1786	1786	



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CATALOG NUMBER: S122DIW-S290D1440U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	315.3	315.0	314.8	314.5	314.3	313.9	313.3	312.8	312.2	311.6	312.0
5°	314.4	314.1	313.8	313.5	313.1	312.7	312.1	311.5	310.9	310.3	310.9
7.5°	311.5	311.3	311.1	310.9	310.7	310.4	309.9	309.5	309.0	308.5	309.3
10°	309.4	309.2	309.0	308.8	308.6	308.3	308.0	307.7	307.4	307.1	307.9
12.5°	305.7	305.8	305.8	305.9	305.9	305.8	305.6	305.4	305.1	304.9	305.7
15°	299.8	300.0	300.2	300.4	300.6	300.7	300.7	300.7	300.7	300.7	301.6
17.5°	292.2	292.6	293.0	293.5	293.9	294.3	294.6	294.9	295.2	295.6	296.5
20°	287.1	287.6	288.1	288.6	289.1	289.6	290.0	290.4	290.8	291.2	292.3
22.5°	281.7	282.2	282.8	283.4	284.0	284.6	285.1	285.7	286.3	286.8	287.9
25°	272.6	273.3	274.0	274.7	275.4	276.2	277.1	278.0	278.9	279.8	281.0
27.5°	261.7	262.8	264.0	265.1	266.3	267.4	268.4	269.5	270.6	271.7	273.2
30°	254.4	255.7	257.0	258.3	259.6	261.0	262.3	263.6	264.9	266.2	267.8
32.5°	246.4	247.9	249.3	250.8	252.3	253.8	255.4	256.9	258.5	260.0	261.9
35°	234.9	236.6	238.3	240.0	241.7	243.5	245.5	247.4	249.3	251.2	253.4
37.5°	222.3	224.3	226.3	228.3	230.2	232.5	235.0	237.4	239.9	242.4	244.9
40°	214.0	216.2	218.4	220.6	222.8	225.3	228.0	230.8	233.5	236.2	238.8
42.5°	206.0	208.2	210.4	212.6	214.9	217.5	220.7	223.8	226.9	230.0	232.9
45°	192.6	195.3	198.1	200.8	203.5	206.6	210.2	213.7	217.2	220.8	223.9
47.5°	179.4	182.4	185.4	188.3	191.3	194.9	199.0	203.1	207.3	211.4	214.7
50°	170.4	173.5	176.6	179.7	182.9	186.7	191.3	195.8	200.3	204.9	208.3
52.5°	161.6	164.9	168.2	171.5	174.8	178.8	183.6	188.4	193.2	198.0	201.5
55°	147.6	151.3	154.9	158.5	162.2	166.6	171.9	177.1	182.4	187.6	191.3
57.5°	133.8	137.9	142.0	146.1	150.2	154.9	160.3	165.6	171.0	176.4	180.3
60°	124.0	128.4	132.7	137.0	141.4	146.4	152.2	157.9	163.7	169.4	173.3
62.5°	115.3	119.8	124.3	128.8	133.3	138.4	144.2	149.9	155.7	161.5	165.5
65°	100.8	105.8	110.7	115.7	120.6	126.1	132.0	138.0	144.0	149.9	154.1
67.5°	87.6	92.8	97.9	103.1	108.3	113.9	120.0	126.1	132.2	138.3	142.5
70°	78.1	83.4	88.6	93.9	99.1	104.9	111.1	117.4	123.7	129.9	134.3
72.5°	69.4	74.8	80.2	85.6	91.1	96.9	103.3	109.6	116.0	122.3	126.6
75°	55.9	61.5	67.2	72.8	78.5	84.5	91.0	97.5	103.9	110.4	114.7
77.5°	42.8	48.7	54.6	60.5	66.5	72.7	79.3	85.8	92.4	98.9	103.3
80°	34.1	40.2	46.4	52.5	58.7	65.1	71.6	78.2	84.7	91.3	95.5
82.5°	26.8	32.9	39.0	45.0	51.1	57.5	64.1	70.8	77.4	84.0	88.3
85°	16.4	22.6	28.9	35.1	41.4	47.7	54.2	60.7	67.1	73.6	77.8
87.5°	9.2	16.0	22.8	29.7	36.5	43.9	51.8	59.7	67.7	75.6	79.6
90°	6.1	15.9	25.8	35.7	45.6	57.4	71.2	85.1	98.9	112.7	116.1
92.5°	31.0	39.4	47.8	56.2	64.6	72.8	80.8	88.7	96.7	104.6	108.7
95°	82.0	90.1	98.2	106.3	114.4	121.8	128.5	135.3	142.0	148.7	152.6
97.5°	146.4	153.6	160.7	167.9	175.1	182.2	189.3	196.4	203.5	210.5	214.3
100°	194.6	201.1	207.5	213.9	220.3	226.8	233.5	240.2	246.8	253.5	257.2
102.5°	244.9	250.5	256.0	261.6	267.2	273.3	280.1	286.8	293.6	300.4	304.3
105°	326.4	330.3	334.3	338.2	342.1	347.1	353.0	358.9	364.8	370.7	374.9
107.5°	408.9	412.7	416.6	420.4	424.2	428.6	433.6	438.7	443.7	448.7	452.4
110°	461.6	465.7	469.7	473.7	477.7	482.2	487.2	492.1	497.1	502.0	505.2



TEST NUMBER: P331492

CATALOG NUMBER: S122DIW-S290D1440U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	519.5	523.2	526.9	530.6	534.3	538.4	542.8	547.3	551.7	556.2	558.6
115°	604.8	608.0	611.1	614.2	617.3	620.8	624.7	628.6	632.4	636.3	639.0
117.5°	689.4	692.8	696.2	699.6	703.0	705.9	708.2	710.6	712.9	715.2	717.4
120°	746.1	749.2	752.3	755.3	758.4	760.7	762.0	763.4	764.7	766.1	768.9
122.5°	798.0	801.3	804.7	808.1	811.5	814.1	816.0	818.0	819.9	821.8	823.7
125°	878.3	881.3	884.3	887.4	890.4	893.0	895.2	897.4	899.7	901.9	903.6
127.5°	957.0	960.7	964.4	968.2	971.9	974.4	975.8	977.2	978.6	980.0	981.3
130°	1006.5	1010.7	1015.0	1019.2	1023.5	1026.3	1027.8	1029.2	1030.7	1032.1	1033.9
132.5°	1061.9	1065.4	1068.8	1072.3	1075.7	1078.3	1080.1	1081.9	1083.6	1085.4	1086.3
135°	1135.6	1139.3	1143.0	1146.7	1150.4	1153.1	1154.7	1156.4	1158.1	1159.8	1161.6
137.5°	1213.7	1216.7	1219.7	1222.7	1225.7	1227.9	1229.2	1230.5	1231.8	1233.1	1234.7
140°	1260.8	1263.7	1266.6	1269.5	1272.4	1274.8	1276.7	1278.6	1280.5	1282.3	1283.9
142.5°	1309.0	1311.9	1314.8	1317.8	1320.7	1322.7	1323.9	1325.1	1326.3	1327.4	1329.0
145°	1377.9	1380.3	1382.6	1384.9	1387.3	1389.5	1391.5	1393.5	1395.5	1397.5	1398.4
147.5°	1439.7	1442.5	1445.3	1448.2	1451.0	1453.1	1454.4	1455.7	1457.1	1458.4	1459.2
150°	1481.9	1483.9	1486.0	1488.0	1490.0	1491.6	1493.0	1494.3	1495.7	1497.0	1498.0
152.5°	1519.3	1521.3	1523.3	1525.3	1527.4	1529.2	1530.8	1532.4	1534.0	1535.6	1536.9
155°	1575.4	1576.4	1577.4	1578.4	1579.4	1580.4	1581.4	1582.4	1583.4	1584.4	1586.1
157.5°	1623.3	1624.0	1624.7	1625.4	1626.0	1626.7	1627.3	1627.9	1628.5	1629.1	1631.3
160°	1652.3	1653.0	1653.6	1654.3	1655.0	1655.5	1655.8	1656.1	1656.5	1656.8	1658.8
162.5°	1678.8	1679.0	1679.1	1679.2	1679.4	1679.6	1679.9	1680.3	1680.6	1680.9	1683.2
165°	1714.1	1713.8	1713.4	1713.1	1712.8	1712.6	1712.6	1712.6	1712.6	1712.6	1714.9
167.5°	1743.6	1742.6	1741.6	1740.6	1739.6	1739.1	1739.0	1739.0	1738.9	1738.8	1741.2
170°	1759.3	1758.3	1757.3	1756.3	1755.3	1754.6	1754.3	1754.0	1753.6	1753.3	1755.6
172.5°	1770.2	1769.2	1768.2	1767.2	1766.2	1765.5	1765.2	1764.8	1764.5	1764.1	1766.5
175°	1783.4	1782.4	1781.4	1780.4	1779.4	1778.6	1777.9	1777.2	1776.6	1775.9	1778.3
177.5°	1788.9	1788.1	1787.3	1786.5	1785.7	1785.0	1784.4	1783.9	1783.4	1782.8	1784.4
180°	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5



TEST NUMBER: P331492

CATALOG NUMBER: S122DIW-S290D1440U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	312.4	312.8	313.2	313.4	313.2	313.0	312.9	312.7
5°	311.5	312.1	312.7	312.9	312.8	312.7	312.6	312.5
7.5°	310.0	310.7	311.5	311.8	311.7	311.6	311.5	311.4
10°	308.7	309.5	310.3	310.7	310.6	310.5	310.4	310.3
12.5°	306.5	307.3	308.1	308.5	308.4	308.3	308.2	308.1
15°	302.5	303.5	304.4	304.8	304.7	304.6	304.5	304.4
17.5°	297.5	298.4	299.3	299.8	299.8	299.8	299.8	299.8
20°	293.4	294.5	295.6	296.2	296.2	296.2	296.2	296.2
22.5°	289.1	290.2	291.3	291.9	292.1	292.2	292.4	292.6
25°	282.3	283.5	284.7	285.4	285.7	286.0	286.3	286.6
27.5°	274.7	276.3	277.8	278.7	278.9	279.1	279.3	279.6
30°	269.4	271.1	272.7	273.6	273.9	274.2	274.5	274.8
32.5°	263.7	265.6	267.5	268.7	269.2	269.8	270.3	270.8
35°	255.7	257.9	260.1	261.6	262.3	263.0	263.7	264.4
37.5°	247.3	249.8	252.3	253.9	254.6	255.4	256.1	256.8
40°	241.5	244.1	246.7	248.5	249.4	250.3	251.2	252.1
42.5°	235.8	238.6	241.5	243.4	244.3	245.2	246.1	247.0
45°	227.0	230.2	233.3	235.4	236.4	237.4	238.4	239.4
47.5°	218.0	221.2	224.5	226.7	227.8	228.9	230.0	231.1
50°	211.7	215.2	218.6	220.9	222.0	223.1	224.2	225.3
52.5°	205.0	208.5	212.0	214.4	215.6	216.8	218.0	219.1
55°	194.9	198.5	202.2	204.6	205.9	207.3	208.6	209.9
57.5°	184.2	188.1	192.0	194.6	196.0	197.3	198.6	200.0
60°	177.1	181.0	184.8	187.4	188.8	190.2	191.7	193.1
62.5°	169.6	173.7	177.8	180.5	181.8	183.1	184.5	185.8
65°	158.2	162.3	166.5	169.2	170.5	171.8	173.1	174.4
67.5°	146.6	150.8	155.0	157.8	159.1	160.5	161.9	163.3
70°	138.6	142.9	147.3	150.1	151.3	152.5	153.7	154.9
72.5°	130.8	135.1	139.3	142.2	143.6	145.1	146.6	148.0
75°	119.1	123.4	127.8	130.6	131.9	133.2	134.5	135.8
77.5°	107.6	111.9	116.2	119.1	120.5	121.9	123.3	124.7
80°	99.8	104.0	108.3	111.1	112.5	113.9	115.3	116.7
82.5°	92.5	96.8	101.0	103.8	105.1	106.5	107.8	109.1
85°	82.1	86.3	90.6	93.4	94.8	96.2	97.6	99.0
87.5°	83.6	87.6	91.5	94.2	95.6	96.9	98.3	99.7
90°	119.5	122.8	126.2	128.7	130.2	131.8	133.3	134.8
92.5°	112.8	116.9	121.0	123.7	125.0	126.2	127.5	128.8
95°	156.4	160.2	164.1	166.3	166.8	167.3	167.9	168.4
97.5°	218.0	221.8	225.5	227.9	229.0	230.2	231.3	232.4
100°	260.9	264.7	268.4	270.7	271.4	272.2	273.0	273.8
102.5°	308.2	312.1	316.1	318.4	319.2	320.0	320.7	321.5
105°	379.1	383.3	387.5	390.2	391.3	392.4	393.5	394.6
107.5°	456.0	459.7	463.4	465.0	464.5	464.1	463.7	463.2
110°	508.5	511.7	514.9	516.6	516.7	516.8	516.9	517.0



TEST NUMBER: P331492

CATALOG NUMBER: S122DIW-S290D1440U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	561.0	563.4	565.9	567.3	567.6	568.0	568.4	568.8
115°	641.7	644.4	647.1	648.5	648.6	648.7	648.8	648.9
117.5°	719.6	721.8	723.9	725.0	725.1	725.1	725.1	725.1
120°	771.7	774.6	777.4	778.9	779.0	779.1	779.2	779.3
122.5°	825.7	827.6	829.6	830.6	830.9	831.1	831.3	831.5
125°	905.3	907.1	908.8	909.9	910.5	911.1	911.6	912.2
127.5°	982.6	983.9	985.2	985.8	985.6	985.4	985.2	985.0
130°	1035.6	1037.4	1039.1	1039.7	1039.2	1038.7	1038.1	1037.6
132.5°	1087.2	1088.0	1088.9	1089.2	1088.9	1088.7	1088.4	1088.1
135°	1163.4	1165.1	1166.9	1167.7	1167.5	1167.3	1167.1	1166.9
137.5°	1236.3	1237.9	1239.5	1240.0	1239.3	1238.7	1238.0	1237.3
140°	1285.6	1287.2	1288.8	1289.2	1288.5	1287.8	1287.0	1286.3
142.5°	1330.6	1332.1	1333.7	1334.1	1333.2	1332.4	1331.6	1330.8
145°	1399.4	1400.3	1401.3	1401.3	1400.5	1399.7	1398.8	1398.0
147.5°	1460.0	1460.9	1461.7	1461.6	1460.5	1459.5	1458.5	1457.5
150°	1499.0	1500.0	1501.0	1501.0	1500.0	1499.0	1498.0	1497.0
152.5°	1538.1	1539.4	1540.7	1540.7	1539.4	1538.1	1536.9	1535.6
155°	1587.8	1589.5	1591.1	1591.5	1590.5	1589.5	1588.5	1587.5
157.5°	1633.6	1635.9	1638.2	1638.5	1636.9	1635.3	1633.7	1632.1
160°	1660.8	1662.8	1664.8	1665.2	1663.8	1662.5	1661.2	1659.8
162.5°	1685.5	1687.8	1690.0	1690.4	1688.8	1687.2	1685.6	1683.9
165°	1717.3	1719.6	1722.0	1722.3	1720.6	1719.0	1717.3	1715.6
167.5°	1743.5	1745.9	1748.2	1748.5	1746.8	1745.0	1743.3	1741.5
170°	1758.0	1760.3	1762.7	1762.8	1760.8	1758.8	1756.8	1754.8
172.5°	1768.8	1771.2	1773.5	1773.7	1771.7	1769.7	1767.7	1765.7
175°	1780.6	1782.9	1785.3	1785.5	1783.4	1781.4	1779.4	1777.4
177.5°	1786.1	1787.7	1789.3	1789.3	1787.7	1786.1	1784.4	1782.8
180°	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5

(END OF REPORT)